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 11 *Brightex Bio-Photonics, LLC*

12  
 13 **UNITED STATES DISTRICT COURT**  
 14 **NORTHERN DISTRICT OF CALIFORNIA**  
 15 **SAN JOSE DIVISION**

16  
 17 BRIGHTEX BIO-PHOTONICS, LLC,

18 Plaintiff,

19 vs.

20 CIVIL ACTION NO. 5:24-cv-07919

21  
 22 L'OREAL USA, INC.,

23 Defendant.

24  
 25 **PLAINTIFF BRIGHTEX BIO-PHOTONICS, LLC'S**  
 26 **COMPLAINT FOR PATENT INFRINGEMENT**

27 Plaintiff Brightex Bio-Photonics, LLC ("BTBP") files this Complaint for patent  
 28 infringement against Defendant L'Oreal USA, Inc. ("L'Oreal USA"), and alleges as follows:

29  
 30 1. Plaintiff BTBP is a limited liability company organized and existing under the laws  
 31 of the State of California, with its principal place of business located at 359 Piercy Rd., San Jose,  
 32 California 95138.

33  
 34 2. BTBP was founded in 2005. BTBP pioneered the combined use of quantitative  
 35 image analysis, reproducible high-resolution 2D photography, and ultra-high resolution 3D  
 36 models to provide its customers with flexible and innovative software platforms that utilize

machine vision and deep learning algorithms to detect and recognize skin and facial features and other physical features from an image including a face, and based on the features identified, select personalized cosmetic products and skin treatment recommendations. Through extensive research and testing, BTBP has developed significant advancements in these fields, resulting in several patents owned by BTBP. Based on this patented technology, BTBP has offered one of the world's leading and most comprehensive precision facial skin analysis platforms for use in internet and in-store technologies. BTBP's patented technology provides the ability to perform real-time facial skin tracking, precisely identifying the face and facial skin features in live videos or still photos. That patented technology enables companies in the cosmetics and beauty industries to provide validated skin health analysis along with live beauty and skin care try-on transformations.

3. Defendant L’Oreal USA is a Delaware corporation with its principal executive offices located at 10 Hudson Yards, 30<sup>th</sup> floor, New York, NY, 10001. L’Oreal USA may be served with process through its registered agent Corporation Service Company, 80 State Street, Albany, NY 12207.

## **JURISDICTION AND VENUE**

4. This is an action for patent infringement arising under the patent laws of the United States of America, Title 35, United States Code. This Court, therefore, has original jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

5. L’Oreal USA is subject to the specific personal jurisdiction of this Court. Specifically, BTBP’s claims for patent infringement against L’Oreal USA arose from L’Oreal USA’s acts of infringement in the State of California, and in this district and division. In particular, L’Oreal USA’s acts of infringement include testing and operating interactive websites and other tools using the patented inventions in the State of California, this district and in Santa Clara County. L’Oreal USA also has made those websites and tools available to persons residing

1 and located in the State of California, this district and this county. L’Oreal USA, in doing so, has  
2 facilitated the sale of products and services through the websites and tools to those persons in  
3 those locations.

4 6. In addition, in 2022, L’Oreal USA announced that it was opening a second  
5 company headquarters in the forum state of California, located at 888 North Douglas in El  
6 Segundo, California. As Stephane Rinderknech, then President and CEO of L’Oreal USA, stated,  
7 “[w]e are excited at the prospect of our brand teams coming together to build the future of beauty  
8 in the Los Angeles area.” The California activities of L’Oreal USA at its second headquarters are,  
9 in part, related to L’Oreal USA’s infringing activities alleged herein.

10 7. L’Oreal USA also has opened a “tech incubator” in this judicial district, located in  
11 San Francisco in 2016. This L’Oreal Technology Incubator has an office located in the City of  
12 San Francisco, and includes physicists, engineers UX specialists, hardware designers and data  
13 scientists working cross functionally brand and product-wise to help L’Oreal USA evolve from a  
14 beauty company to a technology company in the beauty and cosmetic commercial space. In that  
15 connection, L’Oreal USA has been directly involved in the development, testing and marketing  
16 of virtual try-on technology used by L’Oreal USA that has infringed the patents asserted in this  
17 action.

18 8. Furthermore, in approximately 2023, L’Oreal USA entered into a partnership with  
19 the University of California (UC) Berkeley’s Bakar Labs, a leading biotech incubator located in  
20 this judicial district. This collaboration opens up avenues for Bakar Labs and L’Oreal USA to  
21 benefit mutually from the technological developments of both organizations used in connection  
22 with skin analysis and beauty treatments. Bakar Labs is housed in the Bakar BioEnginuity Hub  
23 on the UC Berkeley campus and provides over 40,000 square feet of lab and office space for  
24 L’Oreal USA and Bakar Labs to collaborate on advanced biological technologies to advance the  
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1 biotechnology field across the pharmaceutical and beauty industries and develop new beauty  
 2 products that improve skin health and address specific skin concerns.

3       9.       These L’Oreal USA facilities located in the San Francisco area and at the  
 4 University of California’s Bakar Labs in Berkeley, California are physical, geographical locations  
 5 in this judicial district from which the business of L’Oreal USA has been and is carried out. These  
 6 facilities located in the Northern District of California are regular and established places of  
 7 business of L’Oreal USA.

8       10.      In view of these facts, this Court has personal jurisdiction over L’Oreal USA under  
 9 California’s long-arm statute, Cal. Civ. Proc. Code § 410.10. L’Oreal USA has purposefully  
 10 directed its activities toward California, and purposefully availed itself of the privileges of  
 11 conducting activities in California, and the patent infringement claims asserted in this action arise  
 12 out of and relate to L’Oreal USA’s forum-related activities. Furthermore, the exercise of  
 13 jurisdiction comports with fair play and substantial justice.

14       11.      The above facts also establish that venue of this action in the Northern District of  
 15 California is proper pursuant to 28 U.S.C. § 1400(b). In addition, BTBP’s claims for patent  
 16 infringement in this civil action based on at least some of L’Oreal USA’s activities, as alleged  
 17 herein, arose in Santa Clara County.

18       **BTBP’S DEVELOPMENT OF ADVANCED AND INNOVATIVE TECHNOLOGY  
 19                   RELATING TO THE RECOGNITION AND COMPUTERIZED ANALYSIS OF  
 20                   FACIAL FEATURES**

21       12.      BTBP is a technology company headquartered in Silicon Valley that is dedicated  
 22 to advancing the skincare, beauty, and makeup industries by providing technology that can capture  
 23 and analyze images of a person’s facial features; and, then by using artificial intelligence, diagnose  
 24 the conditions or characteristics of features that might warrant further treatment. The technology

1 can also provide customers with recommendations and virtual visualizations of the application of  
2 cosmetics or other products to treat or improve the appearance of those features.

3       13. In 2005, Raj Chhibber, after a successful career in the semiconductor industry,  
4 determined that there was an unfulfilled need to improve the ability to scan facial skin features  
5 and help identify skin characteristics and conditions that could be treated or otherwise remedied.  
6 He also realized that the skincare industry was far behind in using technology to improve its  
7 products and services. For example, at the time of BTBP's founding, the industry was still visually  
8 comparing images before and after product application with no quantification of skin parameters.  
9 Visual grading was used, and books were published to train staff and dermatologists to align their  
10 grading scores. This deficient process was known as "blind dermatology" by many researchers  
11 in the field. Chhibber and the team he assembled at BTBP determined that even well-trained  
12 dermatologists could not agree on grading and classification with the accuracy required to prove  
13 product efficacy.

14       14. Chhibber researched the matter and determined that inspecting a face for  
15 characteristics and conditions required one to closely examine the skin for very small  
16 imperfections, which was the best way to conduct a useful diagnosis. This lead Chhibber and his  
17 team to develop software for use in a facial image scanner, which BTBP called the "Clarity Pro"  
18 system. This software enabled a facial image scanner to identify bacteria-clogging pores, show  
19 where wrinkles are forming, and identify skin damage caused by the sun. Chhibber understood  
20 that, with this BTBP technology, doctors and aestheticians would be able to recommend creams,  
21 lotions and other skin treatment products based on skin condition, and then show patients "before  
22 and after" effects of such recommendations. In addition, companies, such as cosmetic companies,  
23 could test and quantifiably demonstrate the benefits of such products to their customers.

1       15.    Although the Clarity Pro facial image scanner was a technology targeted for use  
2 by beauty spas and dermatologists, Chhibber envisioned refining BTBP's technology to reduce  
3 its size and cost and improve its performance so that it could be used in cellphones and laptop type  
4 devices by ordinary end-users for personal use. The advanced cameras that smart devices used  
5 provided consumers with the ability to take high-quality photography at home. This, coupled with  
6 advances in artificial intelligence (AI), allowed BTBP to develop technology that could perform  
7 advanced skin measurements and analysis on images or "selfies" taken with commercially  
8 available smartphones in order to accurately assess skin conditions to recommend the correct  
9 cosmetics and skincare treatments.

10       16.    As BTBP developed its innovative personalized skin analysis and treatment  
11 technology, it applied for and obtained numerous patents covering its advancements in  
12 technology. On September 20, 2005, for example, Chhibber and several of his colleagues filed  
13 an application for a patent covering a method and system for analyzing skin conditions using  
14 digital images. This application resulted in the issuance of United States Patent No. 7,454,046 in  
15 2008.

16       17.    Then, on November 8, 2008, Chhibber and his BTBP colleagues filed a related  
17 patent application covering methods and systems for analyzing skin conditions using digital  
18 images. This application resulted in the issuance of United States Patent No. 8,155,413 in 2012.

19       18.    Then, in 2012 and 2013, the patent applications resulting in the patents asserted in  
20 this case – United States Patent Nos. 9,842,358 ("the '358 Patent") and 9,542,595 ("the '595  
21 Patent") – were applied for and granted in 2017. See Exhibits 1 and 2, respectively. These  
22 applications cover electronic devices that capture and analyze digital images depicting facial  
23 characteristics. Since 2005, BTBP has obtained 15 United States patents covering the process for  
24 capturing and analyzing digital images of a person's face.

1

2 **L'OREAL USA'S EXTENSIVE BUSINESS DEALINGS WITH BTBP LEADING UP TO**  
**ITS DECISION TO USE BTBP'S PATENTED TECHNOLOGY**

3

4       19. In 2007, L'Oreal USA and its affiliates had essentially no experience with using  
5 software-based skin analysis and treatment technology but wanted to explore using such  
6 technology in its business of selling cosmetics and beauty products. In this regard, L'Oreal USA  
7 acquired from BTBP a copy of BTBP's Clarity Pro Clinical Research System in late 2007.

8       20. Prior to the 2007-time-frame, most skin analysis cosmetologists used visual  
9 grading techniques. In 2007 and 2008, L'Oreal USA and its affiliates performed initial tests of  
10 the BTBP Clarity Pro Clinical Research System and reviewed published studies showing a strong  
11 correlation between the results of visual grading techniques and BTBP's Clarity Pro Clinical  
12 Research System.

14       21. In late 2008, L'Oreal USA visited BTBP facilities to see a demonstration of the  
15 BTBP Clarity Pro Clinical Research System to learn about the BTBP Clarity Pro system. Daniel  
16 Kung, who was L'Oreal USA's Senior Chemical Engineer, contacted Shefali Sharma, Marketing  
17 Director for BTBP on July 14, 2009 and indicated that Germain Puccetti's skin team was having  
18 "positive experiences ... with BTBP" and expressed interest in moving "towards a formal proposal  
19 for some" additional work with BTBP regarding a similar product for his hair team. See Exhibit  
20 3.

22       22. On April 1, 2009, L'Oreal USA and its affiliates entered into a Mutual Non-  
23 Disclosure Agreement with BTBP (the "2009 L'Oreal-BTBP NDA") pursuant to which L'Oreal  
24 USA was "considering engaging" BTBP "to perform certain services or supply certain goods"  
25 relating to the computerized skin analysis.

26       23. Pursuant to the 2009 L'Oreal-BTBP NDA, L'Oreal USA and its affiliates held  
27 numerous meetings and conferences with BTBP personnel regarding the nature, function, and

1 operation of the BTBP Clarity Pro Clinical Research System. BTBP disclosed to L’Oreal USA  
2 how the Clarity Pro System performed automated skin analysis by analyzing images of skin before  
3 and after application of beauty care products. This was done to measure minute changes in the  
4 skin caused by the skin and beauty care products. As explained to L’Oreal USA, one of the  
5 benefits of the Clarity Pro System was its ability to automatically reposition facial images to  
6 ensure the before and after images lined up correctly based on regions of the skin. The system  
7 then identified a variety of skin conditions in these skin regions. More specifically, the concept of  
8 extracting a skin map (a pixel region within an image that belongs to the subject’s skin) from an  
9 image using color and intensity information using digital algorithms was disclosed and  
10 demonstrated to L’Oreal USA. The concept of sub-categorization was also disclosed and shown  
11 to L’Oreal USA (*i.e.*, pores of different sizes were placed into different size/severity categories).  
12 L’Oreal USA tested the System by using a pore constrictor on a test subject, which showed that  
13 after the use of a pore constrictor, fewer visible pores were present in the largest, most severe  
14 category identified by the system. Critically, BTBP also demonstrated the system’s ability to  
15 detect and measure skin features (such as sunspots and wrinkles) by looking at their color and  
16 intensity differences relative to the surrounding skin, rather than by looking at universal color and  
17 intensity values. This concept, as disclosed to Defendant, is what allowed the system to tailor its  
18 analysis of skin to an individual subject (*i.e.*, person), rather than relying on a single static  
19 algorithm for all subjects, ensuring significantly more accurate results. BTBP also disclosed and  
20 explained the system’s ability to calibrate images of a subject automatically by using a color  
21 standard (or chart) that is visible within the image in a static position. This ability allowed for the  
22 correction of images by comparing the color standard’s recorded values to their known or  
23 established values and making automatic corrections to the images to standardize colors between  
24 images. This ability, as disclosed to Defendant, also increased the accuracy of the system.  
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1           24. For example, in May 2009, a scientist from L’Oreal USA by the name of Dr.  
2 Germain Puccetti, located in Clark, New Jersey, visited BTBP’s facilities in San Jose, California,  
3 to gather information on BTBP systems, and he reviewed images of facial skin obtained using the  
4 BTBP Clarity Pro Clinical Research System (“the System”) during that visit to BTBP. L’Oreal  
5 USA’s tests using the BTBP technology and systems verified that the Clarity Pro system was able  
6 to automatically and accurately measure “before and after” changes in the photographic images  
7 of the skin at a quality level comparable to that performed by a professional visual grader of the  
8 skin. This meant that studies of facial skin could be made cheaper and faster than visual grading  
9 so that a cosmetics company such as L’Oreal USA could get products to market quicker with less  
10 overhead. Thus, L’Oreal USA, through testing of the BTBP Clarity Pro Clinical Research System,  
11 demonstrated that consumers could automatically find small variations in skin to see and prove  
12 small improvements in skin conditions caused by active ingredients.  
13

14           25. As L’Oreal USA continued to gather information on the BTBP technology and  
15 investigate the BTBP Clarity Pro system, in June 2010, L’Oreal USA personnel again visited  
16 BTBP facilities and attended a presentation and demonstration of BTBP instruments used in the  
17 System. During this visit, L’Oreal USA brought its Head of US Hair Instrumental Evaluation  
18 Fred Cervantes, and the Head of International Hair Jean-Yves Kemph. As one L’Oreal USA  
19 Senior Engineer commented in June 2010, “it was great for Fred and Jean-Yves to see the  
20 capabilities and potential from collaborating with your company. I am hoping that this will help  
21 build momentum for this project.”  
22

23           26. In 2011, L’Oreal USA conducted further clinical studies of the BTBP technology  
24 using the third-party company International Research Services, Inc. (“IRSI”), which conducted  
25 independent research to verify claims concerning cosmetic and skincare companies concerning  
26 efficacy of their products. Specifically, L’Oreal contracted out efficacy studies of these products  
27  
28

1 through IRSI, and IRSI used BTBP's Clarity Pro System for its studies to determine if the claims  
 2 made as to cosmetic and skincare were accurate.

3 27. Also, during the late 2010-time-period, Dr. Guive Balooch (Dr. Balooch) became  
 4 the Senior Research Scientist and Innovative Imaging Science and Technology at U.S. Advanced  
 5 at L'Oreal USA's Clark, New Jersey facility. Dr. Balooch is presently the Global Managing  
 6 Director of Augmented Beauty and Open Innovation at L'Oreal Worldwide where he leads a  
 7 global team uncovering and developing "disruptive innovations" through strategic partnerships,  
 8 investments, and acquisitions for the group. From December 2014 to October 2022, Dr. Balooch  
 9 was L'Oreal Worldwide Global Vice President and the head of the L'Oreal Global Technology  
 10 Incubator (GTI) and California Research Center (CRC), with a focus on strategic partnerships  
 11 with start-ups, investments, and digital/scientific innovations. When L'Oreal USA first began  
 12 investigating BTBP, Dr. Balooch was among the first L'Oreal representatives to take part in that  
 13 investigation.

14 28. In May 2011, Dr. Balooch announced to Dr. Germain Puccetti at L'Oreal that "I am  
 15 now in charge of the imaging department at L'Oreal so I am very interested in doing a demo of  
 16 Clarity Pro and trying to bring it in house to L'Oreal. Can you set up a meeting so I can discuss this  
 17 with them?"

18 29. On July 1, 2011, Dr. Balooch visited BTBP's facilities in San Jose to obtain  
 19 information on BTBP's technology, and he oversaw a demonstration and planned experiments of  
 20 the Clarity Pro technology and was provided in-depth information on the new features of the Clarity  
 21 Pro system. In September of 2011, L'Oreal USA ordered a BTBP Clarity LITE unit for further  
 22 study, a move which L'Oreal USA asserted would build further "confidence in BTBP."

23 30. Near the end of April 2013, L'Oreal USA invited BTBP to visit L'Oreal USA's  
 24 New York City office for meetings with L'Oreal's Digital Vice President IT, and to make a  
 25

1 presentation regarding BTBP's skin analysis and treatment technology. After BTBP made its  
2 presentation, L'Oreal USA decided to conduct a more thorough investigation of BTBP's  
3 technology, and, in this regard, entered into another Non-Disclosure Agreement with BTBP (the  
4 "April 2013 L'Oreal-BTBP NDA"). The April 2013 L'Oreal-BTBP NDA provided, in part, that  
5 L'Oreal USA, "together with its parent, subsidiaries and affiliates," agreed to receive from  
6 BTBP "certain confidential and proprietary information" regarding BTBP's skin analysis and  
7 treatment technology. Pursuant to this April 2013 L'Oreal-BTBP NDA, L'Oreal USA agreed not  
8 to disclose BTBP's confidential and proprietary information to any other party and to use the  
9 information only for the purpose exploring a business transaction between the parties for L'Oreal  
10 USA to use the BTBP skin analysis and treatment technology in its business. More specifically,  
11 BTBP disclosed to L'Oreal USA the initial version of its DeepTag technology, which was an e-  
12 diagnostic platform (*i.e.*, an application on a phone or website) capable of performing many of the  
13 functions of BTBP's Clarity Pro System in a fraction of the time. BTBP disclosed many aspects  
14 of its DeepTag technology to Defendant's personnel, including (1) the concept of a guide to show  
15 a user how to take images of their skin in a way that was optimal to skin measurement and analysis,  
16 (2) the analysis of user-taken images on remote servers and the division of the face into regions  
17 as described in the Clarity Pro System above, (3) the specific algorithms used for facial detection  
18 and tracking, (4) the methods by which the DeepTag platform utilized the measurements taken  
19 from the user images in order to rank skin conditions in terms of severity and recommend the  
20 appropriate products. BTBP also disclosed its methods by which to map skin measurements to  
21 specific products for recommendation purposes.

22       31.     BTBP created applications for L'Oreal USA to conduct tests using the DeepTag  
23 technology. These applications, as provided to Defendant, had fully functional user interfaces and  
24 included BTBP's automated skin analysis systems and real-time image capturing and evaluation

1 services. These applications took the form of apps installed on L’Oreal smart devices (i.e., cell  
 2 phones) and applications designed to be accessed via a website URL. L’Oreal USA was  
 3 particularly interested in understanding how to obtain skin measurements in order to recommend  
 4 products in order to make sales directly from an application.

5 32. L’Oreal USA and BTBP then entered into an agreement effective November 21,  
 6 2013, pursuant to which L’Oreal USA contracted with BTBP for BTBP to create and implement  
 7 what L’Oreal USA called a “customized e-diagnostic platform” for L’Oreal USA brands of  
 8 cosmetics and beauty products (the “November 2013 L’Oreal E-Diagnostic Platform Agreement”)  
 9 for two L’Oreal products -- “LRP” and “Garnier.” In particular, the November 2013 L’Oreal E-  
 10 Diagnostic Platform Agreement specifically provided as follows:

12       BTBP has developed an e-diagnostic platform that takes and displays an image of a  
 13 person which can be viewed to diagnose features of the person that might be improved  
 14 with the use of products from the Beauty Industry and that permits the person to select  
 15 and apply such products to the image and then view the results (“E-Diagnostic  
Platform”). LUSA desires to have BTBP create and implement a customized E-  
 16 Diagnostic Platform (“LUSA Customized E-Diagnostic Platform”) for the LUSA brands  
 17 of products identified in **Schedule A** (“LUSA Brands”) and to host the LUSA  
 Customized E-Diagnostic platform on BTBP servers for access by consumers through  
 the various media identified in **Schedule A**.

18       BTBP has agreed to create, implement and host the LUSA Customized E-Diagnostic Platform  
 19 in accordance with the terms and conditions set forth in this Agreement.

20       BTBP referred to this L’Oreal E-Diagnostic Platform as the BTBP DeepTag platform.

21       33. BTBP then designed and delivered fully functional applications that incorporated  
 22 BTBP technology for two of L’Oreal’s brands, LRP and Garnier. BTBP worked with these brands  
 23 to determine their preferred user-interfaces, uploading of products, and testing of the applications.

24       34. For example, testing of the LRP application was to be completed on July 10, 2014,  
 25 and was scheduled to launch on July 13, 2014. Garnier, by comparison, was scheduled to  
 26 complete testing on July 1, 2014, and launch on July 8, 2014. *See Project Timeline.*

35. On April 20, 2015, Pritesh Davda (Assistant Vice President of Digital Marketing for L’Oreal USA) informed BTBP that it was working on its own “Skin Genius” application, which was “like what [BTBP] built for LRP.” *See Email re: Meeting with L’Oreal Brands.*

## L'OREAL USA'S EXPLOITATION OF OTHER COMPANIES' AUTOMATED SKIN ANALYSIS TECHNOLOGY WHILE DOUBLE DEALING WITH BTBP

36. In June 2014, L’Oreal Paris, a brand of L’Oreal USA, announced “the introduction of the “Makeup Genius” product, which L’Oreal Paris described as “a game-changing app that uses advanced facial mapping technology to turn the front-facing iPhone and iPad camera into a virtual mirror that allows women to try on products in real-time.”

37. L’Oreal Paris, explained that the L’Oreal “virtual makeup app, Makeup Genius, was born out of L’Oreal USA’s Connected Beauty Incubator, a new business division based out of L’Oreal’s Research & Innovation labs in Clark, New Jersey, dedicated entirely to technology innovation.” This Clark, New Jersey facility is the L’Oreal USA facility that worked extensively with BTBP to learn details about the BTBP Clarity technology, and then “to create, implement and host the LUSA Customized E-Diagnostic Platform” that “takes and displays an image of a person which can be viewed to diagnose features of the person that might be improved with the use of products from the Beauty Industry and that permits the person to select and apply such products to the image and then view the results.”

38. In March 2016, although L’Oreal Paris announced the renewal of this contractual relationship with Image Metrics, it then unceremoniously abandoned that relationship shortly thereafter

39. In 2015, L’Oreal USA and its affiliates announced a strategic partnership with the L’Oreal entities, and the augmented reality technology company known as Modiface to provide a smartphone application to certain L’Oreal branded products. Then, in July 2017, “L’Oreal Paris” announced “a global partnership” with Perfect Corp., the provider of the YouCam smartphone-

1 based app used to provide virtual try-on make up and other beauty products. On the heels of this  
2 announcement, L’Oreal and its affiliates began negotiating the outright acquisition of the  
3 Modiface entity, effective March 2018, effectively terminating the “partnership” between L’Oreal  
4 and Perfect Corp.

5 40. Even after the L’Oreal acquisition of Modiface, in October 2019, L’Oreal USA’s  
6 parent corporation approached BTBP to discuss whether it could obtain more information on  
7 BTBP’s automated skin analysis technology and entered into another NDA to learn additional  
8 technology to pursue this technology in its business. L’Oreal Paris Headquarters once again  
9 contacted BTBP and discussed how they can leverage BTBP’s technology. L’Oreal wanted to  
10 obtain further information on the features BTBP had added to DeepTag; of specific interest to  
11 L’Oreal were measurements related to skin tone and skin color for potential use in accurate  
12 makeup and beauty products recommendation. These were new features to the DeepTag platform  
13 that BTBP had added since L’Oreal USA’s previous contact. As part of the discussions, BTBP  
14 provided L’Oreal with additional information under the NDA including sample apps  
15 demonstrating the new DeepTag features that showed their accuracy and how the measurements  
16 can be integrated into product recommendation. The native apps were installed onto L’Oreal’s  
17 smart devices and web apps were made accessible to them via URL links.

18 41. Then, in mid-2021, a L’Oreal representative located in India contacted BTBP and  
19 inquired about BTBP’s capabilities regarding imaging services for skin care products. Before  
20 sharing further technical information about DeepTag, BTBP requested that an NDA be signed.  
21 After signing at least three prior NDA agreements with BTBP, L’Oreal did not want to sign an  
22 NDA in 2021, and communications between L’Oreal and BTBP ended.

## THE ASSERTED BTBP PATENTS

42. Notwithstanding L’Oreal USA’s improper misappropriation of BTBP’s intellectual property regarding its computerized methods for enabling consumers to acquire and analyze images of faces, BTBP obtained patent rights to those inventions to protect that intellectual property.

43. In particular, in 2011, a company named Own, Inc. (“Own”) contacted BTBP about working with Own to develop technology for use in automated skin analysis and skin recommendations.

44. Own was a start-up skin-care company based in San Francisco, California. At the time, Own was engaged in the development, marketing and sales of facial skincare products composed of natural and naturally derived ingredients which were marketed to consumers interested in anti-acne and anti-aging products.

45. Own and BTBP entered into a contract pursuant to which Own hired BTBP to create and license software to serve as a diagnostic tool for use with Own's proposed skin care products to perform automated skin analysis and skin recommendations technology as requested by Own.

46. In connection with the development of this technology, Own filed an application for a patent – Application No. 13/527,578 (the “‘578 Application”) – on June 19, 2012. Before the completion of the prosecution of the application, Own transferred the ownership of the application to BTBP. The ‘578 Application was issued as U.S. Patent No. 9,842,358 (“the ‘358 Patent”) on December 12, 2017, entitled “Method for Providing Personalized Recommendations.”

47. BTBP has been the proper owner by assignment since at least April 17, 2014, and hence, owns all right, title, and interest in the '358 Patent until its expiration date on October 14,

1 2032, including the right to sue for and recover all past, present, and future damages from  
2 infringement of the '358 Patent.

3 48. One embodiment of the '358 Patent is described in Claim 16, which states as  
4 follows:

5 A computerized method for providing prioritized skin treatment recommendations  
6 to a user, comprising:

7 receiving from an electronic device image data of a user's face, wherein the  
8 electronic device comprises a camera and a display, wherein the image data is  
9 obtained via said camera, and wherein said electronic device presents on the  
display a photo guide indicating how the user's face should be positioned with  
respect to the camera when the image data is obtained;

10 transforming via a computer said image data via image processing into  
11 measurements in order to identify at least two skin characteristics of the user from  
12 the received image data;

13 calculating a severity rating for each of the at least two user skin characteristics by:

14 accessing stored population information comprising measurements for at least two  
15 skin characteristics of a population of the same type as the at least two skin  
16 characteristics of the user, wherein each of the measurements for the at least two  
population skin characteristics comprises a mean value and a standard deviation  
value;

17 comparing each of the measurements of the at least two user skin characteristics to  
18 the measurements of same type population skin characteristic;

19 determining by how much each of the measurements of the at least two user skin  
20 characteristics deviates from the mean value and the standard deviation value of  
21 the same type population skin characteristic;

22 assigning higher severity rating to the user skin characteristic which deviates  
23 furthest than at least one standard deviation of the same type population skin  
24 characteristic; and for a subset of the user skin characteristics with the highest  
severity rating, selecting [one] or more skin treatment recommendations from  
25 stored skin treatment recommendations based on the subset of the user skin  
characteristic with the highest severity rating; and

26 providing to the electronic device the selected one or more skin treatment  
27 recommendations.

1           49.     Claim 18 of the '358 Patent claims "the method of claim 16: wherein at least one  
 2 of the at least two user skin characteristics and the at least two population skin characteristics  
 3 comprise one or more of: number of wrinkles, number of age spots, quality of age spots,  
 4 percentage of facial area covered by age spots, number of hyperpigmentation spots, quality of  
 5 hyperpigmentation spots, percentage of facial area affected by hyperpigmentation spots, number  
 6 of crow's feet, number of fine lines, number of deep lines, oiliness of skin, dryness of skin,  
 7 pigment intensity, pigment darkness, pigment evenness, visibility of pores, number of large pores,  
 8 lip color, lip line curvature, lip border strength, lip line smoothness, lip fullness, acne lesion  
 9 visibility, color of acne scars, visibility of acne scars, presence of melasma, percentage of facial  
 10 area covered by melasma, darkness of melasma, ultraviolet damage, and skin tone."

12           50.     On January 10, 2017, the United States Patent and Trademark Office ("the PTO")  
 13 issued U.S. Patent No. 9,542,595 ("the '595 Patent") entitled "Systems and Methods for  
 14 Recommending Cosmetic Products for Users with Mobile Devices." The '595 Patent was filed  
 15 as Application No. 14/224,659 ("Application No. '659") on March 25, 2014. Application No. '659  
 16 was filed as Provisional Application No. 61/805,126 ("Provisional Application No. 126") entitled  
 17 "Systems and Methods for Recommending Cosmetic Products for Users with Mobile Devices"  
 18 on March 25, 2013.

20           51.     BTBP has been the owner of the '595 Patent by assignment from the inventors to  
 21 BTBP since June 24, 2014. BTBP thus has the right to sue for and recover all past, present, and  
 22 future damages from infringement of the '595 Patent. The '595 Patent will expire on April 18,  
 23 2034 due to the term being extended by 24 days.

25           52.     One embodiment of the '595 Patent is described in Claim 5, which states as  
 26 follows:

27                   A method for analyzing a skin of a subject and identifying a cosmetic product for  
 28 the subject, comprising:

1 at an electronic device with one or more processors and memory storing one or  
2 more programs for execution by the one or more processors:

3 calibrating colors of a first digital image, wherein the first digital image depicts at  
4 least a portion of a face of the subject, and the first digital image includes a plurality  
5 of pixels;

6 displaying the first digital image;

7 dividing the display of the first digital image into two sides, wherein one side of  
8 the first digital image is displayed with no cosmetic product applied, and one side  
9 of the first digital image is displayed with a simulated application of a cosmetic  
10 product;

11 transferring the first digital image; and

12 transferring information of a cosmetic product, wherein skin pixels in the plurality  
13 of pixels are identified, color space values are identified from the skin pixels, and  
14 the cosmetic product is identified at least based on the color space values.

### 15 THE INNOVATION OF THE ASSERTED PATENTS

16 53. Claim 16 of the asserted '358 Patent is directed to a novel method for receiving an  
17 image of the skin of a person's face, then providing a computer analysis of that image data to  
18 identify its skin characteristics that deviate substantially from a group of reference data relating to  
19 those skin characteristics, and then providing recommendations to a user for treating those skin  
20 conditions based upon the "severity" of the deviations or "ratings." The Claim requires the  
21 method to use a "photo guide" to position the capture of the facial image in the camera display.

22 54. Thus, the claimed invention is not directed to the abstract idea of providing  
23 recommendations to a user about a product *per se*.

24 55. Moreover, in the claimed invention, a computer is **not** invoked merely as a tool,  
25 using its generic processes. Instead, it is directed at a specific computerized process that provides  
26 for a particular, improved way to acquire an image of a person's face, and then analyze that image  
27 data to identify at least two user skin characteristics, and then calculate the extent to which the  
28

1 user's data for at least these two skin characteristics deviate from stored data regarding the same  
2 type of skin characteristics (i.e. "severity rating") for a specific group of people.

3 56. The provided skin treatment recommendations, therefore, are based, in part, on the  
4 user skin characteristics with highest severity ratings, as determined by a computerized analysis  
5 of photo image data, and not previously performed by the use of pen and paper. In particular, the  
6 claims require the specified process to be performed using an "electronic device" that "comprises  
7 a camera and display."

8 57. The claims focus on a specific computerized method for providing skin treatment  
9 recommendations to a user based, in part, on the extent of the deviation of the severity of the user's  
10 skin characteristics compared to the same type to of skin characteristics for a comparable group  
11 of people.

12 58. The claimed specific computerized process solved the problem of automatically  
13 identifying a user's most severe skin conditions and then recommending a treatment for the  
14 condition based, in part, on the highest severity rating of the skin condition. The claims are not  
15 directed at the abstract idea of providing skin treatment recommendations to users in general,  
16 merely by invoking generic processes and equipment.

17 59. The asserted claims improved upon the technology for acquiring and then  
18 analyzing facial data for prioritizing product recommendation to treat skin conditions, based in  
19 part on the perceived severity of skin condition problems. The specific steps set forth in the  
20 asserted claims state how the claims improve the method for identifying the severity of a skin  
21 condition and then recommending a treatment for improving the condition, not achieving the  
22 recommendation of a product. The asserted claims, therefore, recite a technical solution to a  
23 problem arising in the realm of computing networks.

1       60.     During prosecution, the Patent and Trademark Office initially rejected the claims  
2 of the '358 Patent under 35 U.S.C. § 101, contending that the claimed invention is directed to  
3 the abstract idea of providing recommendations. The '358 Patent issued in 2017, which  
4 means this Patent was examined after, and in view of, the Supreme Court's *Alice Corp.*  
5 decision on Section 101 of the Patent Act.

6       61.     The patentee responded to the aforementioned rejection by pointing out that the  
7 invention is a novel computerized method of providing prioritized skin treatment  
8 recommendations to users based on a severity rating calculation.

10      62.     The patentee further responded that the pending claims of the application for  
11 the '358 Patent contain meaningful limitations that represent a sufficiently inventive concept,  
12 and that they recite specifically how the recommendations are selected and prioritized based  
13 on a specifically calculated severity rating.

14      63.     In addition, during prosecution, the claims were eventually amended to require the  
15 display of the camera used to perform the specific process to have a "photo guide indicating how  
16 the user's face should be positioned with respect to the camera when the image is obtained." These  
17 limitations also preclude a pen-and-paper method of implementation.

19      64.     In view of the patentee's responses to the PTO's office actions and the amendments  
20 to the pending claims of the application for the '358 Patent, the PTO withdrew the rejection of the  
21 claims pending claims, including the now issued Claims 16 and 18, under 35 U.S.C. § 101.

22      65.     In addition, the PTO, in the first office action during prosecution, rejected the  
23 pending claims under pre-AIA 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No.  
24 6,571,003 (hereinafter "Hillebrand").

26      66.     The patentee responded to this initial rejection under § 102(b) by pointing out  
27 that the present invention is a novel computerized method of providing prioritized skin

1 treatment recommendations to users based on a severity rating calculation not disclosed by  
2 Hillebrand or any other prior art.

3 67. In contrast, the patentee explained, Hillebrand failed to calculate a “severity rating”  
4 according to the principles of the present invention and to use the severity rating to provide  
5 recommendations. In particular, the patentee explained that Hillebrand instead determined “skin  
6 severity” for each defected skin area in order to display the individual skin severities or overall  
7 skin severity to the user. Hillebrand was not concerned about prioritizing defected skin areas by  
8 severity and therefore Hillebrand did not provide any relation between the skin severities of  
9 different defected skin areas in order to prioritize for which defected skin area the user would  
10 benefit the most from treatment. In addition, while Hillebrand disclosed comparing the severity  
11 of the defected areas to an average skin severity of a population of people, Hillebrand failed to  
12 disclose that each of the population skin characteristics comprises a mean value as well as a  
13 standard deviation value. As such, Hillebrand failed to disclose calculating a severity rating by  
14 “determining by how much each of the at least two user skin characteristics deviates from the  
15 mean value and the standard deviation value of the same type population skin characteristic” and  
16 “assigning higher severity rating to the user skin characteristic which deviates furthest than at least  
17 one standard deviation of the same type population skin characteristic,” as required by the relevant  
18 pending claims.

19 68. The PTO examiner accepted the patentee’s arguments distinguishing the pending  
20 claims from the Hillebrand reference and withdrew his rejection under 35 U.S.C. § 102(b).

21 69. With regard to the ‘595 Patent, during prosecution of that patent, the PTO did not  
22 reject the claims as invalid under 35 U.S.C. § 101 for any reason.

23 70. The claims of the ‘595 Patent are directed at an improved process for calibrating  
24 the color values of a portion of a digital image of a person’s face, and then providing a two-sided  
25

1 display of a portion of the digital image – first side showing the portion of the digital image with  
2 no cosmetic product applied and the second side showing the portion of the digital image with a  
3 simulated application of a cosmetic product. The second side image of the simulated cosmetic  
4 product is based, in part, on the color space values identified of the first digital image.

5 71. Prior to this invention, consumers were typically relegated to selecting cosmetics  
6 and beauty products through the laborious and time-consuming “hit or miss” process of trying on  
7 many different products to determine whether a particular product would be the most appropriate  
8 and acceptable for the user’s facial features and condition (e.g., skin complexion).

9 72. The ‘595 Patent, therefore, provides a specific technological solution to overcome  
10 these drawbacks in the process of selecting cosmetics and beauty products and to improve this  
11 process by increasing the speed, quality, accuracy, and consistency of measuring a person’s skin  
12 and applying artificial intelligence to identify the most appropriate cosmetics or beauty product  
13 for the consumer with those facial features and conditions.

14 73. In particular, the ‘595 Patent discloses a system and method that captures and  
15 analyzes a person’s skin from a digital image of the consumer’s face to determine the consumer’s  
16 skin feature characteristics and then recommends a cosmetics or beauty product based upon those  
17 features through the consumer’s use of an electronic device with one or more processors and  
18 memory to store one or more programs for execution by those processors.

19 74. During prosecution of the ‘595 Patent, the PTO examiner initially rejected  
20 certain pending claims under AIA 35 U.S.C. § 102(a)(2) as being anticipated by U.S. Patent  
21 No. 8,693,768 – the LaForgia reference – and certain pending claims as obvious under 35 U.S.C.  
22 § 103 in view of LaForgia and Saito (US Application No. 2012/0223956).

23 75. After the patentee made some amendments to the pending claims, the PTO  
24 examiner dropped the § 102(a)(2) rejection, continued some rejections under § 103, now based  
25

1 upon a new combination of prior art -- LaForgia and Kinjo (U.S. Patent No.7,577,310), and  
 2 indicated that some claims were now allowable if rewritten in independent form.

3 76. These allowable claims, then Claims 6, 8, 11 and 17, contained the limitation  
 4 concerning the dividing of the display of the first digital image into two sides, with one side  
 5 displaying a simulated application of a cosmetic product and the other displaying no simulated  
 6 cosmetic product. This limitation can be seen in the now-issued Claim 5.

7 77. After one further amendment to the pending claims, the PTO examiner withdrew  
 8 all remaining rejections and allowed issuance of all pending claims, including issued Claim 5.  
 9

10 **L'OREAL'S INFRINGING CONDUCT IN COLLABORATION WITH OTHER  
 11 DIVISIONS AND DEPARTMENTS WITHIN THE L'OREAL GROUP OF COMPANIES**

12 78. Defendant L'Oréal USA is a subsidiary of L'Oreal S.A., a French corporation  
 13 incorporated in France as a Société Anonyme with its registered office in Paris and its corporate  
 14 headquarters and principal offices in Clichy, France. L'Oréal S.A. is the parent company of  
 15 several subsidiaries, which manufacture and distribute beauty, cosmetic, and personal hygiene  
 16 products throughout the world. L'Oreal USA is the largest subsidiary of L' Oréal S.A. and  
 17 was incorporated in 1953. *See* <https://www.loreal.com/en/usa/>. For years L' Oréal S.A. has had  
 18 global revenues exceeding \$40 billion, with approximately \$9 billion or more of those annual sales  
 19 made through L'Oreal USA. *See* <https://www.loreal.com/en/usa/>.

20 79. L'Oréal S.A. manufactures, distributes, and sells cosmetics and other beauty  
 21 products under numerous brand names – approximately 37 brands at the current time. *See* L'Oreal  
 22 2023 Annual Report. L'Oréal S.A. and its subsidiaries, including Defendant L'Oreal USA,  
 23 operate as a unified organization referred to as the “L'Oreal Group.” *See*  
 24 <https://www.loreal.com/en/usa/>. As L'Oréal S.A. states on its website: “L'Oreal has chosen a  
 25 unique strategy: Universalization.” <https://www.loreal.com/en/group/about-loreal/strategy-and->  
 26 model/. In this regard, L'Oréal S.A. states on its website that, “[f]or L'Oreal, universalization is  
 27

1 about having a truly global presence through a unique organization. We are strategically  
 2 concentrated yet operationally decentralized. Local teams are empowered.” *Id.* In this regard,  
 3 L’Oréal S.A. states that, “[t]o achieve that, we have developed a worldwide network of Research  
 4 & Innovation and marketing hubs, one for each of our strategic markets,” including the United  
 5 States. *Id.* L’Oreal USA receives overall strategic guidance regarding its operations from  
 6 L’Oréal S.A. L’Oréal S.A. sells and distributes its products in the United States exclusively  
 7 through L’Oreal USA.

8 90. In accordance with this organizational and operational structure, during the time  
 10 period relevant to the acts of infringement by L’Oreal USA alleged in this complaint, the divisions  
 11 and departments within the L’Oreal Group have acted as the agents of L’Oreal USA in the  
 12 furtherance of these infringing activities.

13 **L’OREAL USA’S WILLFUL INFRINGEMENT OF THE ASSERTED PATENTS**

14 81. On May 23, 2022, Mr. Chhibber, BTBP’s founder and Chief Executive Officer,  
 15 sent a letter to Dr. Balooch, Global Vice President of L’Oreal’s Technology Incubator, notifying  
 16 L’Oreal USA of BTBP’s 15 U.S. patents in the skin analysis and recommendation fields. In  
 17 particular, Mr. Chhibber notified Dr. Balooch of BTBP’s U.S. Patent No. 9,842,358, entitled  
 18 “Method for Providing Personalized Recommendations,” and U.S. Patent No. 9,542,595, entitled  
 19 “Systems and Methods for Recommending Cosmetic Products for Users with Mobile Devices.”  
 20 Mr. Chhibber explained to Dr. Balooch that these patents “relate generally to providing skin  
 21 treatment recommendations to an end user by analyzing a digital image of the user, identifying  
 22 relevant skin characteristics of the user, and selecting a skin treatment recommendation for the  
 23 user based on the identified skin characteristics.”

24 82. Mr. Chhibber pointed out to Dr. Balooch that these BTBP’s patents “are relevant  
 25 to the skin treatment recommendation software that is developed and offered by [L’Oreal].” Mr.

1 Chhibber identified, in particular, “L’Oreal’s ‘Skin Genius’s face mapping software’ which . . .  
 2 provides skin treatment recommendations to an end user by analyzing a digital image of the user,  
 3 identifying relevant skin characteristics of the user, and selecting a skin treatment recommendation  
 4 for the user based on the identified skin characteristics.” Mr. Chhibber informed Dr. Balooch that  
 5 he was “interested in having a discussion . . . to explore the possibility of BTBP and [L’Oreal]  
 6 entering into a mutually beneficial business arrangement” regarding the BTBP patents.  
 7

8 Notwithstanding L’Oreal USA’s extensive business dealings with BTBP between 2007-2014  
 9 regarding BTBP’s patented technology, L’Oreal USA and Dr. Balooch ignored Mr. Chhibber’s  
 10 letter and continued to use the technology claimed in the asserted patents in connection with its  
 11 use of skin treatment recommendation software and the sale of L’Oreal USA products. This  
 12 conduct by L’Oreal USA constitutes willful infringement of the asserted patents.  
 13

**FIRST CLAIM FOR RELIEF  
 (Infringement of the ‘358 Patent)**

15       83.       L’Oreal USA has directly infringed at least Claims 16 and 18 of the ‘358 Patent by  
 16 using the methods claimed and patented in those claims literally or by the doctrine of equivalents.  
 17 In particular, L’Oreal USA has infringed these claims by using the claimed methods when  
 18 providing web pages and applications to individuals for use on its various websites that operate to  
 19 analyze the skin of a potential customer and identify a cosmetic product for a potential customer.  
 20

21       84.       L’Oreal USA offers this cosmetic recommendation technology to encourage sales  
 22 of its products to its consumers.  
 23

24       85.       L’Oreal USA operates and controls, and has operated and controlled, at least the  
 25 e-commerce interactive website [www.vichyusa.com/skin-care-analysis-ai.html](http://www.vichyusa.com/skin-care-analysis-ai.html) (the “Vichy  
 26 Website”), the application SkinConsult AI (“Vichy App”), the [lorealparisusa.com](http://lorealparisusa.com) website  
 27 including the Skin Genius application, and the Match My Shade Application (collectively the  
 28

1 “L’Oreal USA Virtual Beauty Tools”), the [yslbeautyus.com/makeup-virtual-try-on.html](https://yslbeautyus.com/makeup-virtual-try-on.html) website  
 2 including the Shade Finder application (collectively the “YSL Website and Apps”), the  
 3 <https://www.giorgioarmanibeauty-usa.com/face-maestro/face-maestro.html> website, Face  
 4 Maestro application, and Skin Precision Analyzer application (collectively the “Armani Beauty  
 5 Website and Apps”), the <https://www.maybelline.com/virtual-makeover-makeup-tools> website  
 6 Foundation Shade Finder application (the “Maybelline Website and Apps”), the  
 7 <https://www.lancome-usa.com/beauty-services.html> website, the E-Shade Finder application, the  
 8 E-Skin Expert application, and E-Youth Finder application (collectively, the “Lancome Website  
 9 and Apps”), the <https://www.valentino-beauty.us/services.html> website Virtual Shade Finder  
 10 application, (the “Valentino Website and Apps”), and the <https://www.laroche-posay.us/find-your-routine/myroutine-ai-analysis.html> website MyRoutine application and Spot Scan  
 11 application (collectively, the “La Roche Website and App.”). While BTBP has identified the  
 12 above websites and applications, BTBP accuses all websites and applications operated and  
 13 controlled by L’Oreal USA, whether created previously or in the future, with similar or identical  
 14 functionality as Accused Instrumentalities or similar instrumentalities.  
 15

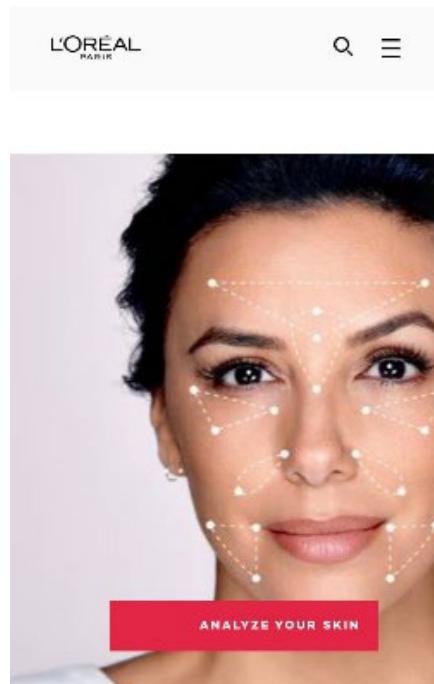
16       86.       The above websites and applications in Paragraph 85 (all collectively “L’Oreal’s  
 17 ‘358 Accused Instrumentalities”) are all owned and operated by L’Oreal USA. *See Exhibit 4.*  
 18

19       87.       When a consumer uses an electronic device to access L’Oreal USA’s ‘358 Accused  
 20 Instrumentalities, L’Oreal USA has performed a method for providing prioritized skin treatment  
 21 recommendations to a user. Moreover, Defendant also directly infringed the ‘358 Patent when its  
 22 employees internally tested or used the ‘358 Accused Instrumentalities or other similar  
 23 instrumentalities.  
 24

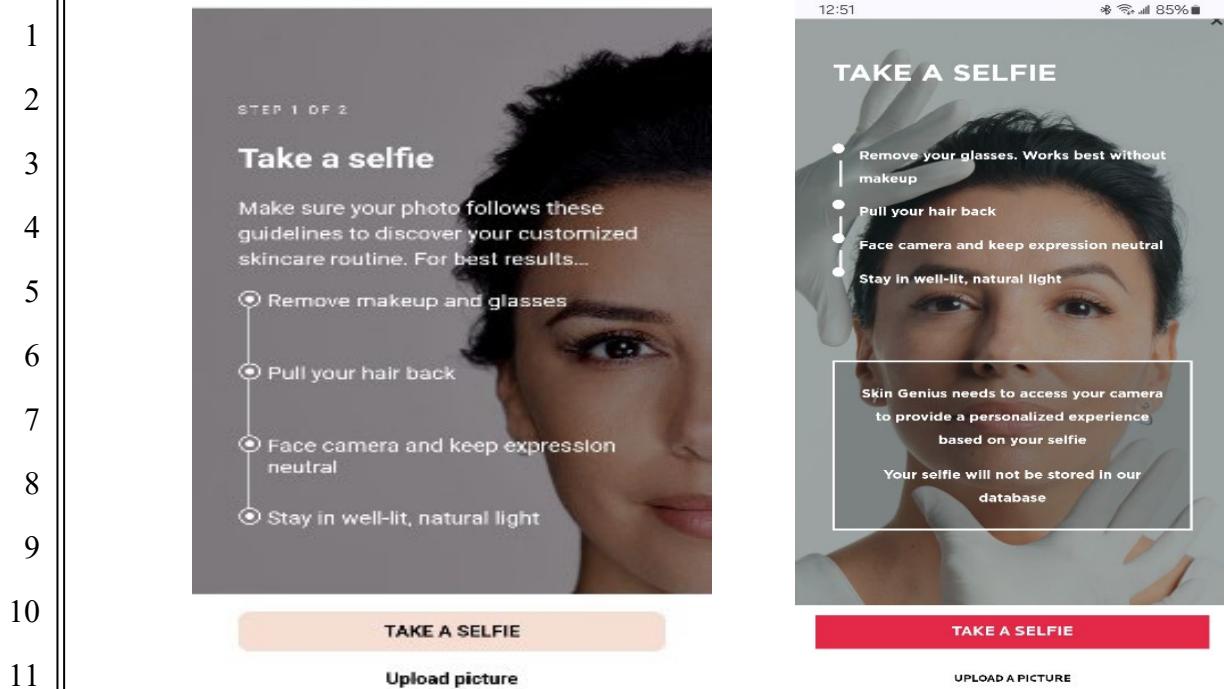
25       88.       If the ‘358 Accused Instrumentalities or similar instrumentalities are claimed by  
 26 Defendant not to be owned and operated directly by Defendant, Plaintiff alleges, upon information  
 27 and belief, that the ‘358 Accused Instrumentalities are not owned and operated directly by  
 28 Defendant.

1 and belief, that Defendant indirectly infringes the '358 Patent under an inducement to infringe or  
2 contributory infringement theory because the platform is being owned, operated and controlled  
3 indirectly by Defendant and for Defendant's benefit.

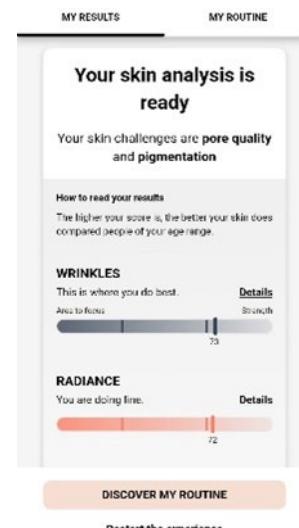
4 89. Since at least 2018, L'Oreal USA has used a method via the '358 Accused  
5 Instrumentalities for analyzing the skin of a subject and identifying a cosmetic product for the  
6 subject.



7 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 90. An exemplary method performed by L'Oreal USA via one '358 Accused  
Instrumentality (in this case, the L'Oreal Skin Genius Application) has included the step of  
receiving from an electronic device image data of a user's face, wherein the electronic device  
comprises a camera and a display, wherein the image data is obtained via said camera, and wherein  
said electronic device presents on the display a photo guide indicating how the user's face should  
be positioned with respect to the camera when the image data is obtained. As can be seen in the  
figures below, a guide for how to obtain a photo is displayed to a user:



91. The exemplary method performed by L'Oréal USA via the Skin Genius Application has included the step of transforming via a computer said image data via image processing into measurements to identify at least two skin characteristics of the user from the received image data. This can be seen in the figure below, with at least the identification of pore quality, pigmentation, wrinkles, and radiance:



92. The Accused Instrumentality processes the image of the user's face that is received and transforms the image into measurements. The Accused Instrumentality uses image processing algorithms such as AI, Machine Learning, and Machine Vision, for example. These measurements are used to identify at least two skin characteristics of the user from the image. The "My Results" tab displays Wrinkles, Radiance, Firmness, Pigmentation (even tone), and Pores measurements. The two measurements with the highest severity are summarized at the top as "Skin Challenges." See the figure above, with pore quality and pigmentation having been identified as skin challenges.

93. The exemplary method performed by L’Oreal via the Skin Genius Application has included the step of calculating a severity rating for each of the at least two user skin characteristics. See the above figure.

94. The exemplary method performed by L’Oreal USA via the Skin Genius Application has calculated a severity rating for each of the at least two user skin characteristics by accessing stored population information comprising measurements for at least two skin characteristics of a population of the same type as the at least two skin characteristics of the user, wherein each of the measurements for the at least two population skin characteristics comprises a mean value and a standard deviation value. As can be seen in the below figure, L’Oreal USA explains that the user’s image is compared against many other images to determine how the user’s skin characteristics compare to others:

## What is Skin Genius?

L'Oréal Paris Skin Genius is a skin analysis tool powered by Artificial Intelligence technology that analyzes your skin's specific needs and helps create a more personalized skincare routine. Paired with over 20 years of skin research at L'Oréal, Skin Genius is developed using a database of more than 10,000 clinically graded images. Your results are analyzed and then compared against clinically graded images of women across different ages, race/ethnicities and skin tones.

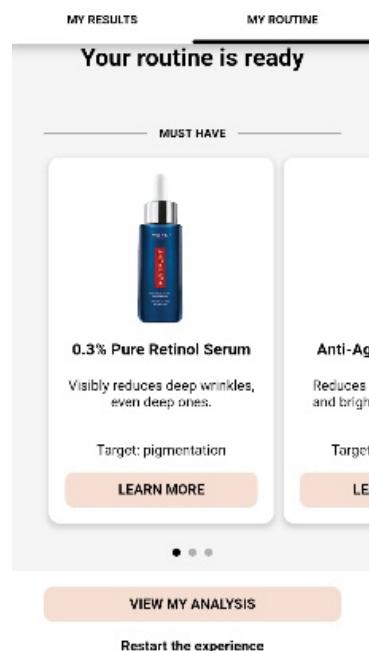
1       95.       The exemplary method performed by L’Oreal USA via the Skin Genius  
2 Application has therefore calculated a severity rating for each of the at least two user skin  
3 characteristics by comparing each of the measurements of the at least two user skin characteristics  
4 to the measurements of same type population skin characteristic.

5       96.       Similarly, the exemplary method performed by L’Oreal USA via the Skin Genius  
6 Application has calculated a severity rating for each of the at least two user skin characteristics by  
7 determining by how much each of the measurements of the at least two user skin characteristics  
8 deviates from the mean value and the standard deviation value of the same type population skin  
9 characteristic. Additionally, a person skilled in the art would understand that training the AI  
10 necessary to perform the functions of the Accused Instrumentality requires comparing its  
11 performance repeatedly to the clinically graded images. In compiling the data of the clinically  
12 graded images, the standard deviation is used to assess the distribution of data. In cases where  
13 there is a lack of correlation between similar clinically graded images, an average value is used.  
14

15       97.       The exemplary method performed by L’Oreal USA via the Skin Genius  
16 Application has calculated a severity rating for each of the at least two user skin characteristics by  
17 assigning higher severity rating to the user skin characteristic which deviates furthest than at least  
18 one standard deviation of the same type population skin characteristic. A person skilled in the art  
19 would understand that clinical grading of the images establishes a set of criteria to grade the  
20 severity of a subject’s skin characteristic. The further from the baseline of healthy/clear skin a  
21 subject has, the higher the severity rating of the skin characteristic. The labels are used to train  
22 the AI to assign higher severity to users who deviate most from the healthy/clear skin baseline  
23 score.  
24

25       98.       The exemplary method performed by L’Oreal USA via the Skin Genius  
26 Application has calculated a severity rating for each of the at least two user skin characteristics  
27

1 by, for a subset of the user skin characteristics with the highest severity rating, selecting one or  
 2 more skin treatment recommendations from stored skin treatment recommendations based on the  
 3 subset of the user skin characteristic with the highest severity rating. This can be seen in the “my  
 4 routine” recommendations tab of the Accused Instrumentality, which recommends several  
 5 products as skin treatments to address the user’s skin characteristics with the highest severity  
 6 (labeled “skin challenges” above). See the figure below for the “my routine” recommendations:  
 7



18       99.       The exemplary method performed by L’Oreal USA via the Skin Genius  
 19 Application has calculated a severity rating for each of the at least two user skin characteristics by  
 20 providing to the electronic device the selected one or more skin treatment recommendations. See  
 21 above figure, which appears on the electronic device of a user.  
 22

23       100.      The exemplary method performed by L’Oreal USA via the Skin Genius  
 24 Application has utilized at least one skin characteristic within the list contained in Claim 18:  
 25 number of wrinkles, number of age spots, quality of age spots, percentage of facial area covered  
 26 by age spots, number of hyperpigmentation spots, quality of hyperpigmentation spots, percentage  
 27

1 of facial area affected by hyperpigmentation spots, number of crow's feet, number of fine lines,  
 2 number of deep lines, oiliness of skin, dryness of skin, pigment intensity, pigment darkness,  
 3 pigment evenness, visibility of pores, number of large pores, lip color, lip line curvature, lip border  
 4 strength, lip line smoothness, lip fullness, acne lesion visibility, color of acne scars, visibility of  
 5 acne scars, presence of melasma, percentage of facial area covered by melasma, darkness of  
 6 melasma, ultraviolet damage, and skin tone.

7 101. Since at least 2018, L'Oreal USA has continued to put this exemplary method into  
 8 service.

9 102. While only one example of one '358 Accused Instrumentality has been provided  
 10 above, L'Oreal USA's use of this '358 Accused Instrumentality is widespread and in use  
 11 throughout its various webpages and applications as detailed in Paragraph 85 above.



26 Vichy App  
 27  
 28

103. The duty to mark under 35 U.S.C. § 287 is inapplicable to the asserted method claims of the '358 Patent, and there are no unmarked “patented articles” that were sold or offered for sale by BTBP or its licensees of the '358 Patent that were subject to § 287.

104. BTBP has been damaged by L’Oreal USA’s infringing activities.

## **SECOND CLAIM FOR RELIEF (Infringement of the '595 Patent)**

105. L’Oreal USA has directly infringed at least Claim 5 of the ‘595 Patent by using the method claimed therein. In particular, L’Oreal USA has infringed Claim 5 by using the claimed method, literally or by the doctrine of equivalents, when providing web pages and applications to individuals for use on its various websites that operates to analyze the skin of a potential customer and display a cosmetic product for a potential customer.

106. L’Oreal USA offers this virtual makeup try-on technology to encourage sales of its makeup products to its consumers.

107. L’Oreal USA operates and controls, and has operated and controlled, at least the e-commerce interactive website [lorealparisusa.com](http://lorealparisusa.com) including the MakeUp Try It On application and Beauty Hub physical retailer screen (collectively the “L’Oreal USA Virtual Beauty Tools”), the [nyx cosmetics.com/try-it-on.html](http://nyx cosmetics.com/try-it-on.html) website and NYX Try It On application (collectively the “NYX Website and App”), the [yslbeautyus.com/makeup-virtual-try-on.html](http://yslbeautyus.com/makeup-virtual-try-on.html) website including the Virtual Try On application (collectively the “YSL Website and Apps”), the [https://www.giorgioarmanibeauty-usa.com/face-maestro/face-maestro.html](http://www.giorgioarmanibeauty-usa.com/face-maestro/face-maestro.html) website, Face Maestro application and Virtual Try-On application, (collectively the “Armani Beauty Website and Apps”), the [https://www.maybelline.com/virtual-makeover-makeup-tools](http://www.maybelline.com/virtual-makeover-makeup-tools) website, Virtual Try-On application and Microsoft Teams Virtual Try-On application (collectively the Maybelline Website and Apps), the [https://www.lancome-usa.com/beauty-services.html](http://www.lancome-usa.com/beauty-services.html) website and Virtual

1 Makeup Try-On application (collectively, the “Lancome Website and Apps”), the  
 2 [https://www.shuuemura-usa.com/en\\_US/makeup/virtual-services/virtual-try-on/](https://www.shuuemura-usa.com/en_US/makeup/virtual-services/virtual-try-on/) website and  
 3 Virtual Try-On application (collectively, the “Shu Uemura Website and App”), the  
 4 <https://www.urbandecay.com> website and Virtual Try-On application (collectively, the “Urban  
 5 Decay Website and App”), and the <https://www.valentino-beauty.us/services.html> website and the  
 6 Virtual Try-On application (collectively, the “Valentino Website and Apps”). While BTBP has  
 7 identified the above websites and applications, BTBP accuses all websites and applications  
 8 operated and controlled by L’Oreal USA, whether created previously or in the future, with similar  
 9 or identical functionality as Accused Instrumentalities or similar instrumentalities.  
 10

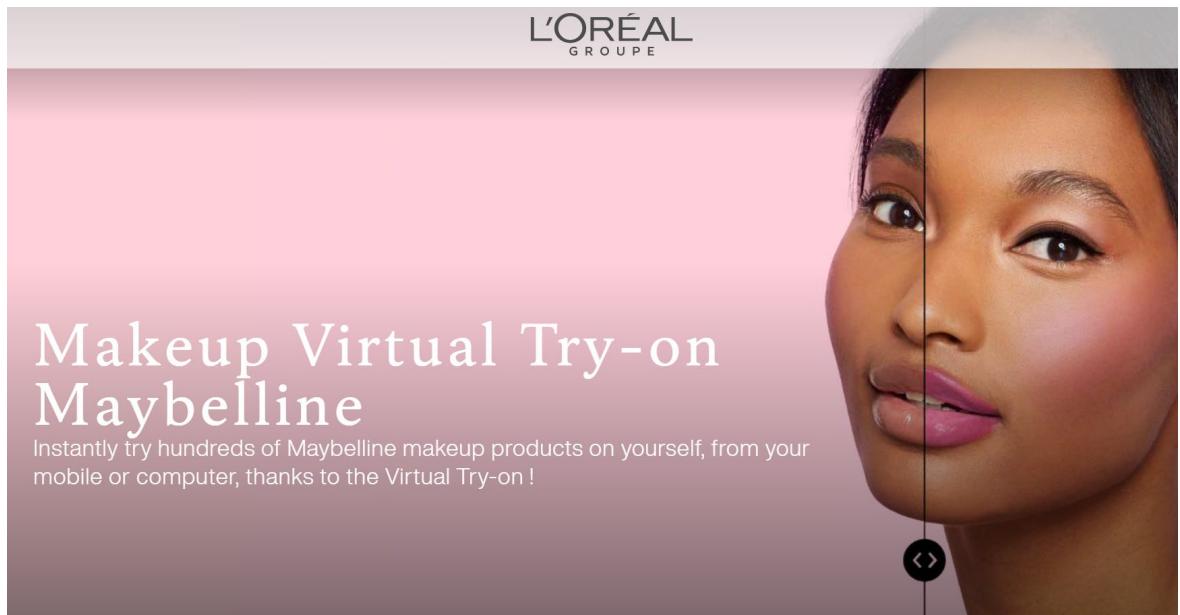
11 108. The above websites and applications in Paragraph 107 (all collectively “L’Oreal’s  
 12 ‘595 Accused Instrumentalities”) are all owned and operated by L’Oreal USA. *See Exhibit 4.*

13 109. When a consumer uses an electronic device to access L’Oreal USA’s virtual  
 14 makeup try-on technology, L’Oreal USA has performed a method for analyzing a consumer’s skin  
 15 from a digital image of the consumer’s face to determine the consumer’s skin color and identify a  
 16 cosmetic product. Moreover, Defendant also directly infringe the ‘595 Patent when its employees  
 17 internally test or use the ‘595 Accused Instrumentalities or other similar instrumentalities.  
 18

19 110. If the ‘595 Accused Instrumentalities or similar instrumentalities are claimed by  
 20 Defendant not to be owned and operated directly by Defendant, Plaintiff alleges, upon information  
 21 and belief, that Defendant indirectly infringes the ‘595 Patent under an inducement to infringe or  
 22 contributory infringement theory because the platform is being owned, operated and controlled  
 23 indirectly by Defendant and for Defendant’s benefit.  
 24

25 111. Since at least 2018, L’Oreal USA has used at least one method via the ‘595  
 26 Accused Instrumentalities for analyzing the skin of a subject and identifying a cosmetic product  
 27 for the subject. An exemplary method performed by L’Oreal USA via one ‘595 Accused  
 28

1 Instrumentality (in this case, the Maybelline Website and Apps) is provided below, but each of  
 2 the '595 Accused Instrumentalities operate in a similar manner and infringe the '595 Patent.



13 **How does it work?**

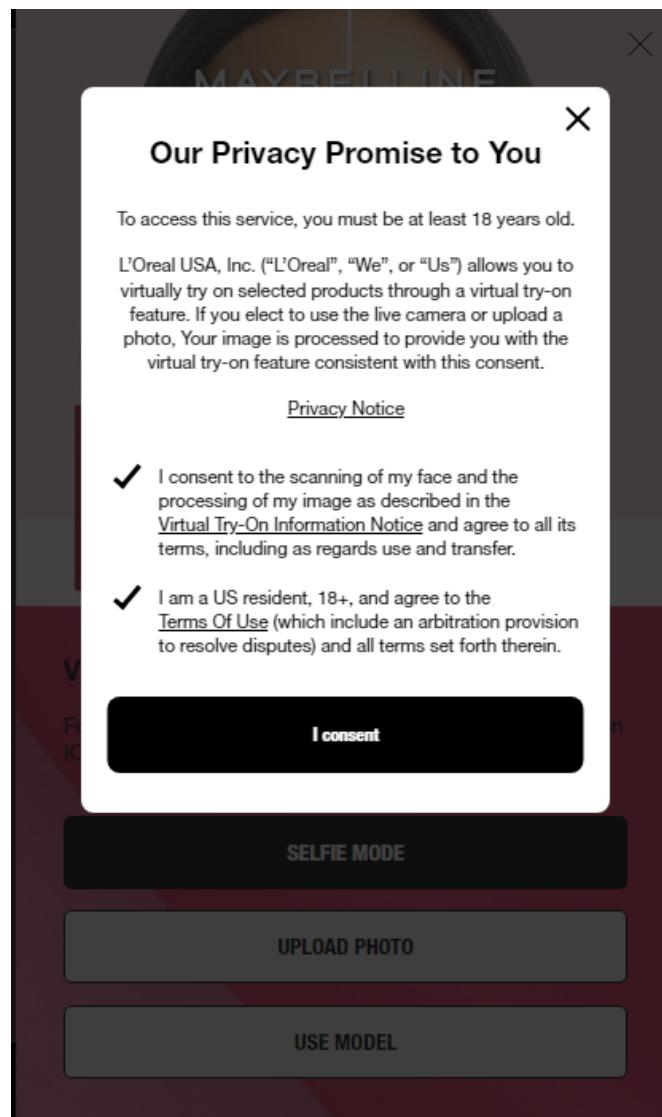
14 Available at [maybelline.com](http://maybelline.com):

- 15 • Choose the product you want to try on
- 16 • Find good natural light
- 17 • Launch your live camera or upload a picture
- 18 • Select the shade you would like to try
- 19 • And see instantly the result on yourself
- 20 • You can see the result of the before/after makeup application, compare
- 21 • between 4 different shades, and share your selfie on social media to ask
- 22 • your friends what they think about your new style.

23 112. The methods utilized by the exemplary '595 Accused Instrumentality for analyzing  
 24 the skin of a subject and identifying a cosmetic product for the subject utilized electronic devices  
 25 with one or more processors and memory storing one or more programs for execution by the one  
 26 or more processors. The Accused Instrumentality comprises, at least in part, software that can run  
 27 on any electronic device such as a mobile telephone, a smart phone, a tablet computer, a personal  
 28 digital assistant, a laptop, or a desktop. Each of these devices necessarily contains one or more  
 processors and memory storing one or more programs for execution by the one or more processors.  
 Additionally, these devices may take the form of servers operated by, or on behalf of, L'Oréal USA

for the purposes of operating and providing the exemplary '595 Accused Instrumentality and the electronic devices may be cellular phones or computers utilized by a user at the direction and control of L'Oreal USA for the benefit of L'Oreal USA.

113. The exemplary '595 Accused Instrumentality calibrates colors of a first digital image, wherein the first digital image depicts at least a portion of a face of the subject, and the first digital image includes a plurality of pixels. As explained by L'Oreal USA, the image of a user (whether through the live camera or through upload) is "processed to provide [a user] with the virtual try-on feature." See <https://www.maybelline.com/virtual-try-on-makeup-tools>:

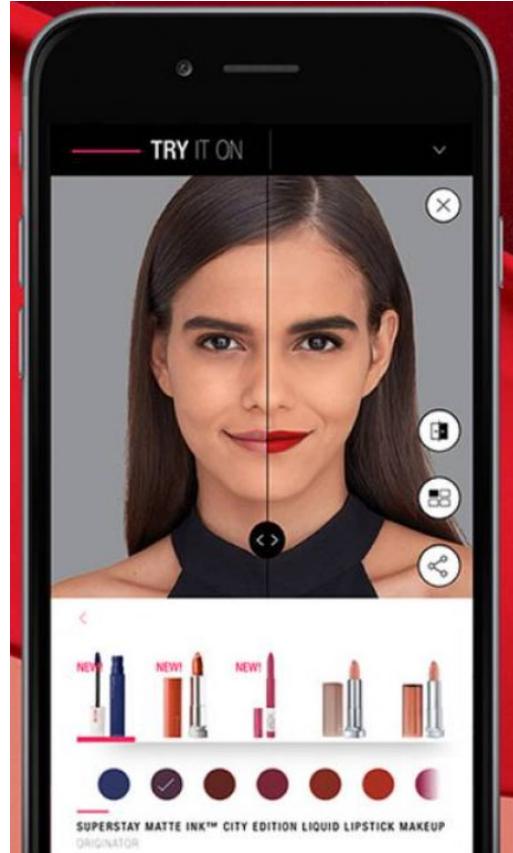


1       114. As readily acknowledged by L’Oreal USA on its website at  
2 <https://www.loreal.com/en/articles/science-and-technology/makeup-virtual-try-on-maybelline>,  
3 the application will collect an image of a user, whether live or static. As a cosmetic product may  
4 appear differently once applied to different complexions (i.e., skin tone) in real life, a person of  
5 skill in the art would understand that L’Oreal, through the L’Oreal server, is calibrating the colors  
6 of the user’s image. Additionally, L’Oreal’s application calibrates the colors of the user image to  
7 identify where to apply their virtual makeup (i.e., to identify lips or eyes).  
8

9       115. This processing by L’Oreal USA inherently includes the calibrating of colors. To  
10 the extent this element is in dispute, upon information and belief discovery will reveal that the  
11 Accused Instrumentality calibrates colors of the first digital image.

12       116. The first digital image is captured by and through L’Oreal USA’s exemplary ‘595  
13 Accused Instrumentality, and this first digital image depicts at least a portion of a face of the  
14 subject and includes a plurality of pixels. This first digital image is captured by selecting either  
15 “selfie mode” or “upload photo,” each of which allow a user to provide L’Oreal USA’s exemplary  
16 ‘595 Accused Instrumentality with an image of their face. These images inherently include a  
17 plurality of pixels.  
18

19       117. The exemplary method performed by L’Oreal USA via the Maybelline Website  
20 and Apps has included the step of displaying the first digital image.  
21  
22  
23  
24  
25  
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28



118. As can be seen in the figure above, the image of a potential customer is displayed  
119 on an electronic device.

120. The exemplary method performed by L'Oreal USA via the Maybelline Website  
121 and Apps has included the step of dividing the display of the first digital image into two sides,  
122 wherein one side of the first digital image is displayed with no cosmetic product applied, and one  
123 side of the first digital image is displayed with a simulated application of a cosmetic product, as  
124 can be seen in the figure above.

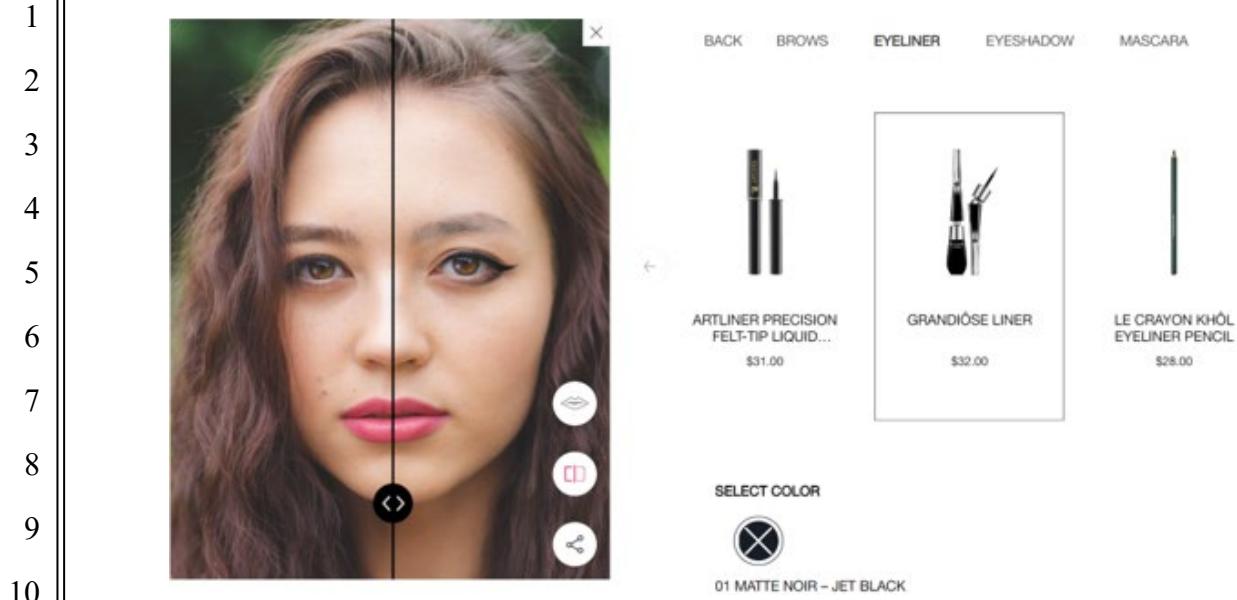
125. The exemplary method performed by L'Oreal USA via the Maybelline Website  
126 and Apps shows two sides of the user's face, one without make-up, and one with simulated make-  
127 up. Further, the Accused Instrumentality also shows two sides of the image, one without make-  
128 up (background), and one with simulated make-up (foreground, i.e., the user's face).

1       121.     The exemplary method performed by L’Oreal USA via the Maybelline Website  
2 and Apps transfers the first digital image. The image is transferred to L’Oreal USA upon consent  
3 by the user and transferred back to the user for display in the figure above.

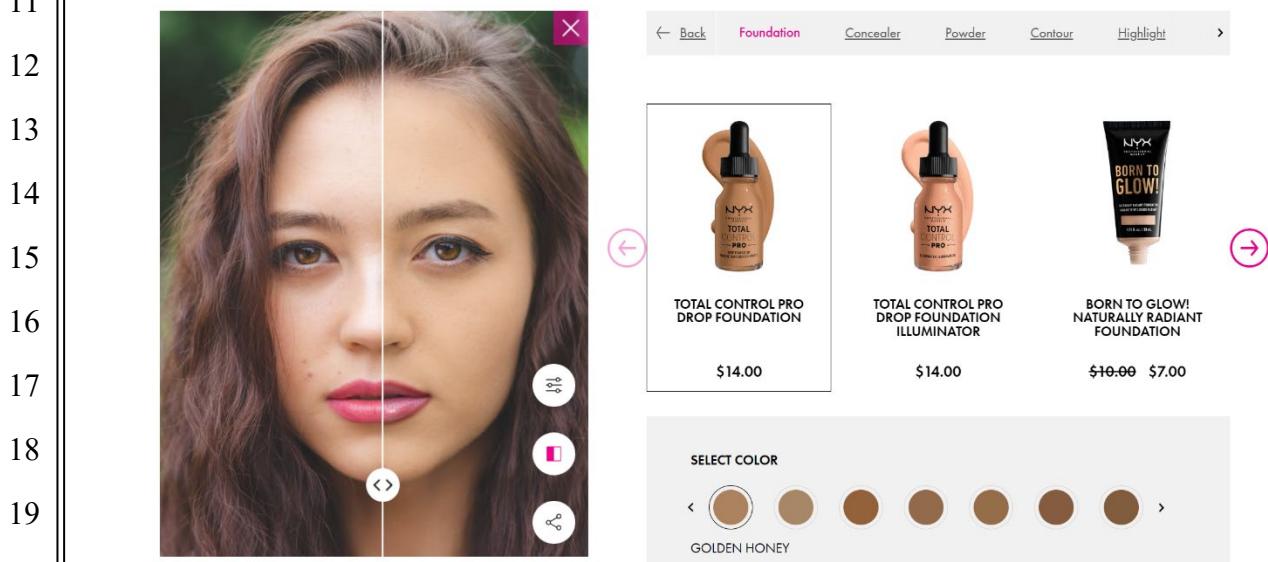
4       122.     The exemplary method performed by L’Oreal USA via the Maybelline Website  
5 and Apps has included the step of transferring information of a cosmetic product, wherein skin  
6 pixels in the plurality of pixels are identified, color space values are identified from the skin pixels,  
7 and the cosmetic product is identified at least based on the color space values. As can be seen in  
8 the figure above, different shades of makeup are offered to the user for virtual try-on. This is  
9 completed through the transferring of information concerning those shades of makeup, identifying  
10 the parts (or pixels) of the customer image that should change color based on color space values  
11 of the customer’s skin (i.e., identifying lips and eyes). The cosmetic products are identified based  
12 on the color space values for selection by the user. This is done to realistically simulate the  
13 cosmetic product on not just any face, but the face of the user.

14       123.     To the extent that any required steps of the claim occurred on a device in the  
15 possession, custody or control of and used by a third party, L’Oreal USA performed those steps  
16 because it initiated and controlled the performance of those steps.

17       124.     While only one example of one Accused Instrumentality has been listed above,  
18 L’Oreal USA’s use of this Accused Instrumentality is widespread and in use throughout its various  
19 webpages and applications, as can be seen in the figures below:



Lancome Website and Apps



NYX Website and App

125. The duty to mark under 35 U.S.C. § 287 is inapplicable to the asserted method claims of the '595 Patent. There is no applicable marking requirement that has not been complied with.

126. BTBP has been damaged by L'Oreal USA's infringing activities concerning the '595 Patent.

**DEMAND FOR JURY TRIAL**

127. Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, BTBP hereby  
demands a trial by jury of all issues so triable.

**PRAYER FOR RELIEF**

WHEREFORE, BTBP requests the following relief:

- (a) A judgment that the asserted patents are valid and enforceable;
- (b) A judgment in favor of BTBP that L’Oreal USA has directly or indirectly infringed one or more claims of the asserted patents;
- (c) An accounting of damages owed to BTBP;
- (d) A judgment and order requiring L’Oreal USA to pay BTBP damages adequate to compensate for infringement under 35 U.S.C. § 284, which, in no event shall be less than a reasonable royalty for its usage made of the inventions of the asserted patents, including pre- and post-judgment interest and costs;
- (e) A judgment awarding BTBP up to treble damages for Defendant’s willful infringement;
- (f) If necessary to adequately compensate BTBP, a declaration that this case is exceptional and that BTBP be awarded additional damages and/or attorney fees under that declaration or under another basis in the law;
- (g) An award of costs and expenses that BTBP incurred in prosecution of this action;
- (h) A judgment awarding BTBP post-judgment royalties to the extent applicable; and
- (i) Any and all such further necessary or proper relief as this Court may deem just or equitable.

1 Dated: November 12, 2024

Respectfully,

2  
3 By: /s/Christopher M. Joe  
Christopher M. Joe

4 *Attorney for Plaintiff*  
5 *Brightex Bio-Photonics, LLC*

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7

8

**ATTESTATION**

9 I, Jamie L. Dupree, hereby attest that concurrence in the filing of PLAINTIFF BRIGHTEX BIO-  
10 PHOTONICS, LLC'S COMPLAINT FOR PATENT INFRINGEMENT has been obtained from  
11 all counsel with conformed signatures above.

12

13 Dated: November 12, 2024

FUTTERMAN DUPREE DODD CROLEY  
MAIER LLP

14

15

/s/ Jamie L. Dupree  
Jamie L. Dupree

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*Local Counsel for Plaintiff Brightex Bio-  
Photonics, LLC*

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